



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Application No.: 09/917,947 **Examiner:** Insun KANG

Filing Date: July 31, 2001 **Art Unit:** 2193

First Inventor: Guido KERSTEN **Customer No.:** 23364

Attorney No.: KERS3001/JEK/JJC **Confirm. No.:** 1529

For: BANK NOTE PROCESSING MACHINE AND METHOD
FOR OPERATING BANK NOTE PROCESSING MACHINE

APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

INTRODUCTORY COMMENTS

This is an appeal brief filed pursuant to the applicants' appeal to the Board of Patent Appeals and Interferences from the final rejection of claims 1, 2 and 4-7 in the above-identified application.

A petition to extend the time period for filing the appeal brief by one-month is filed concurrently herewith.

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I. REAL PARTY OF INTEREST

The real party of interest is the assignee of record: Giesecke & Devrient, GmbH (Munich, GERMANY).

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

A. Status of Claims in Proceeding

Claims 1, 2 and 4-7 are currently pending in the pending application. Claims 3 and 8-14 are canceled.

B. Identification of Appealed Claims

Claims 2 and 4-7 depend from claim 1, and their patentability is based on their dependency from claim 1 and their individually recited features.

A copy of all of the pending claims as presented in the last entered amendment dated June 22, 2005.

IV. STATUS OF AMENDMENTS

There are no pending amendments of the claims. The last amendment was filed on June 22, 2005 of which entry was acknowledged in the Office action dated August 11, 2005.

Claims 1, 2 and 4-7 are pending.

Claims 3 and 8-14 are canceled.

V. SUMMARY OF CLAIMED SUBJECT MATTER

For the purposes of appeal, only the rejection of independent claim 1 is appealed. The remaining pending claims depend from claim 1.

Claim 1 recites a bank note processing machine. The bank note processing machine includes sensors (5), a transport system (6) and an input/output device (7) (Fig. 1; page 3, lines 12-17).

The bank note processing machine also includes a control device (3) that has an associated memory (4, 4a) (Fig. 1; page 3, lines 18-29). The control device (3) controls the elements of the bank note processing machine by means of software and/or data stored in the memory (4, 4a).

The bank note processing machine further has an interface (1) (Fig. 1; page 4, lines 5-14). The interface makes it possible to couple memory systems (2) of different types to the bank note processing machine in order to alter, supplement or replace the software and data in the memory (4a, 4). The memory system (2) has a drive (2b) and a storage medium (2a) which are suitable for optical and magnetic recording (Fig. 2; page 5, lines 1-12).

The transport system (6) of the bank note processing machine includes a singling unit and at least one stacking unit (only generic transport system is shown in drawings; page 3, line 30 through page 4, line 2). The transport system is arranged to transport single bank notes singled by the singling unit along the sensors (5) to the at least one stacking unit according to an evaluation of data obtained by the sensors (5) by the control device (3) (page 4, lines 1 and 2).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 2 and 4-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent 6,039,645 (Mazur) and U.S. patent 6,766,056 (Huang et al.).

VII. ARGUMENT

As discussed in detail below, the basis for the final rejection of claims 1, 2 and 4-7 does not amount to a *prima facie* case of obviousness for the combination of subject matter recited in the rejected claims. Therefore reversal of the rejection of claims 1, 2 and 4-7 is respectfully requested.

A. Claim Rejections

Claims 1, 2 and 4-7 in this application were finally rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent 6,039,645 (Mazur) and U.S. patent 6,766,056 (Huang et al.) in the Office action dated August 11, 2005.

B. Pertinent Law

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See *In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988).

The showings by the examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the *prima facie* case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole. See *id.*; *In re Hedges*, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986).

To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In practice, this requires that there be an explanation as to the reasons one skilled in the art would have been motivated to select the references and to combine them to render the claimed invention obvious. *In re Rouffet* 149 F.3d 1350, 1357-59 (Fed. Cir. 1998). It follows that all of the words recited in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

C. The combination of the Mazur and Huang et al. patents does not amount to a *prima facie* case of obviousness of claim 1

Reversal of the rejection of claim 1 is respectfully requested on the basis that the Mazur and the Huang et al. patents, whether considered individually or collectively, fail to disclose or suggest every limitation of the bank note processing machine according to claim 1. Accordingly, claim 1 is patentable in view of the combination of teachings of the Mazur and Huang et al. patents since the combination of these references does not constitute a case of *prima facie* obviousness.

In the following discussion, the Mazur and the Huang et al. patents will be shown to each fail to teach or suggest every limitation required by claim 1. The discussion will then turn to show how the combination of the Mazur and Huang et al. patents would not motivate one skilled in the art to make the bank note processing machine having all the required features of claim 1.

i. Mazur patent

One of ordinary skill in the art would not be motivated to make the bank note processing machine according to claim 1 in view of the teachings of the Mazur patent on the basis of the following shortcomings.

- (1) The Mazur patent does not disclose or suggest a bank note processing machine;

(2) the Mazur patent does not disclose or suggest a memory system having a drive and a storage medium which are suitable for optical and/or magnetic recording; and

(3) the coin processing machine according to the Mazur patent is unsuited for including a computer system that has a drive and a storage medium suitable for optical and/or magnetic recording.

First, the Mazur patent is generally directed to a coin sorting machine. Nowhere in the Mazur patent is there any reference to bank note processing.

While the action indicates that the machine according to the Mazur patent is a "money processing machine," the action fails to make the obvious distinction over the differences between coin processing and bank note processing. Indeed, coins and bank notes are processed differently, and the machines that process coins and bank notes are configured differently. These differences are self-evident in view of the description on the basic elements of the coin processing machine in the Mazur patent (col. 4, line 22 – col. 7, line 8), and in the pending application (page 3, second to last line through page 7, last line).

In order to distinguish the bank note processing machine according to claim 1 from the coin processing machine of the Mazur patent, claim 1 requires a singling unit and at least one stacking unit that handle the bank notes. A singling unit and at least one stacking unit are common to most bank note processing machines. The singling unit is required to separate bank notes from a stack of bank notes to be processed, and the at least one stacking unit is used to place the bank notes in a stack after they have been evaluated by a control device. It is this very control device which has a memory system that is updated, altered or supplemented according to claim 1 in order to properly evaluate bank notes.

The Mazur patent simply fails to teach a machine having a singling unit and at least one stacking unit, and furthermore makes no reference to the processing of bank notes, currency bills, or any other type of sheet material.

Second, as correctly pointed out in the action, the Mazur patent does not disclose or suggest a bank note processing machine wherein the memory system has a drive and a storage medium which are suitable for optical and/or magnetic recording. Instead, it is explained by the Mazur patent that it is highly preferred to employ a flash memory to update software employed by the system controller since the flash memory enables the memory to be erased and reprogrammed within fractions of a second, and that it is an inexpensive method of software replacement as compared to other known methods such as those employing EEPROM memory (col. 8, lines 34-58).

Third, there is no disclosure or suggestion in the Mazur patent that would tend to motivate a skilled artisan to provide a bank note processing machine with a drive and a storage medium which are suitable for optical and/or magnetic recording. On the contrary, the Mazur patent envisions a very limited memory system that provides inexpensive memory replacement within fractions of a second, and no input via keystrokes or other data entry by an operator.

According to the Mazur patent, it is undesirable to provide a memory system that does not provide quick and easy installation of software to be executed by the system controller (col. 8, lines 59-62). The Mazur patent notes that installation of the software should not involve removing memory and replacing resident memory chips, and should be performed without entering several keystrokes (col. 2, lines 25-29).

In view of its teachings, the memory system of the Mazur patent is relatively inflexible with respect to the storage medium available for updating since it is very limited to the type of permissible storage medium. In the alternative, the memory system recited in pending claim 1 permits an operator to select from a plurality of memory systems and may include criteria for selecting memory by memory volume, size, robustness and price (specification, page 2, lines 20-22).

Having made these observations on the shortcomings of the Mazur patent, the Huang et al. patent is next shown not to make up for these shortcomings.

ii. Huang et al. patent

The Huang et al. patent suffers from the following drawbacks that would preclude one of ordinary skill in the art to turn to this patent to modify the coin processing machine of the Mazur patent into the bank note processing machine according to claim 1.

(1) The Huang et al. patent does not disclose or suggest a bank note processing machine according to the machine prescribed by pending claim 1; and

(2) the Huang et al. patent provides teachings that are non-analogous those of the Mazur patent.

First, the Huang et al. patent does not disclose or suggest a bank note processing machine having all of the features required by claim 1. Instead, the Huang et al. patent teaches two different embodiments, the first embodiment is a photocopier or the like described in col. 3, line 41 through col. 21, line 52, and shown in Figs. 2-18. The second embodiment is a general purpose computer system described in col. 21, line 53 through col. 22, line 57, and shown in Fig. 19.

Neither of the two embodiments described by the Huang et al. patent include a bank note processing machine having a transport system with a singling unit and at least one stacking unit which stacks the bank notes according to an evaluation, as specifically described in claim 1.

Turning to the Office action, the rejection incorrectly refers to both the photocopier and the computer system of the two different embodiments of Huang et al. patent interchangeably. Each embodiment, however, is specifically referred by the Huang et al. patent as being a different embodiment.

While the Huang et al. patent teaches a method of detecting a mark forming part of an image in order to prevent the photocopying of bank notes, there is simply no discussion on actually processing the mark by evaluating the mark and processing the bank note accordingly. Just the opposite occurs. The Huang et al. patent indicates that, upon detection of a certain mark on the bank notes copied by

the photocopier, the photocopier will prevent copying of the bank note, sound a warning, or shut the photocopier down (col. 21, lines 45-53).

It is thus clear that the photocopier or general-purpose computer system of the Huang et al. patent does not constitute a bank note processing machine. Moreover, one skilled in the art of bank note processing machines would not be motivated by teachings of mark reproduction and the prevention thereof of the type described by the Huang et al. patent to make a bank note processing machine having the features of pending claim 1.

Lastly, the teachings of forgery prevention in a photocopier or similar device is non-analogous to those directed towards a coin sorting machine. The Huang et al. patent is only concerned with the prevention of forged paper documents since it openly discusses that it aims to provide a method and apparatus for preventing the copying of high quality color photocopying of bank notes and other valuable instruments (col. 1, lines 13-21). There is no indication in the Huang et al. patent of making copies of coins, and rightly so; one cannot forge copies of coins with a photocopier.

In view of the observations of the Mazur and Huang et al. patents, it will now be shown how one skilled in the art would not be motivated to make the bank note processing machine according to claim 1 of the pending application.

iii. Combination of the Mazur and the Huang et al. patents

In view of the observations on the Mazur and Huang et al. patents, it is respectfully submitted that these patents do not render pending claim 1 *prima facie* obviousness on the basis of the following particulars:

- (1) The combined teachings of the Mazur and Huang et al. patents fail to teach each and every limitation of claim 1;
- (2) there is no motivation among the Mazur and Huang et al. patents, or knowledge readily known to one skilled in the art to combine the teachings of these patents to make the bank note processing machine according to claim 1; and

(3) even if the Mazur and Huang et al. patents were combined, there is no reasonable expectation that a bank note processing machine would successfully be obtained.

a. Failure to teach or suggest every limitation

First, the Mazur and Huang et al. patents fail to disclose or suggest a bank note processing machine having each and every feature required by claim 1. Particularly, neither of these references disclose nor suggest bank note processing, and especially processing wherein bank notes are singled and transported past sensors to a stacking unit which stacks the bank notes according to an evaluation conducted by a control device. The control device has a memory system that is altered, supplemented, or replaced in order to properly evaluate the bank notes.

It is well understood that in assessing differences, section 103 specifically requires consideration of the claimed invention "as a whole", and as such, consideration must be given to portions of the prior art reference that would lead away from the claimed invention. It is asserted that a skilled artisan in the field of bank note processing would not be motivated by the Huang et al. patent to modify the coin sorter of the Mazur patent to make a bank note processing machine since the Huang et al. patent merely teaches a photocopier or general purpose computer system having image detection features to prevent the copy of certain valuable instruments.

b. No motivation to combine

Next, as pointed out above, neither the coin processing machine of the Mazur patent, nor the photocopier having an image detection unit of the Huang et al. patent, constitute a bank note processing machine prescribed by claim 1. These references essentially provide teachings which are not analogous to a bank note processing machine having all of the features required by claim 1. Accordingly, one skilled in the art of bank note processing would not be motivated by either of the Mazur or the Huang et al. patents to make a bank note processing machine having a memory system comprising a drive and a storage medium which are suitable for optical

and/or magnetic recording, and which can be altered, supplemented or replaced by such drive and storage medium.

The rejection points to the general purpose computer system of the Huang et al. patent and proposes to combine this computer system with the coin processing machine according to the Mazur patent. The photocopier of the Huang et al. is clearly not useable with the coin processing machine of the Mazur patent. Apparently, however, the rejection only indicates the magnetic disk or magneto-optical device of the computer system of the Huang et al. patent without contemplating that the magnetic disk or magneto-optical device forms just one part of the computer system of the Huang et al. patent. The remainder of the computer system is selectively ignored in the action and particularly the teaching by the Huang et al. patent that indicates that the magnetic disk or magneto-optical device is merely used to load the computer system (col. 22, lines 36-57).

It is asserted that in order to use the magnetic disk or magneto-optical device of the Huang et al. patent in combination with the coin processing machine of the Mazur patent, the entire computer system must be also used since, taken alone, the magnetic disk or magneto-optical device cannot operate without the computer system. The use of a general-purpose computer system, however, is clearly undesirable according to the teachings of the Mazur patent.

According to the Mazur patent, it is undesirable to provide a memory system that does not provide quick and easy installation of software to be executed by the system controller (col. 8, lines 59-62). Moreover, installation of the software should not involve removing memory and replacing resident memory chips, and should be performed without entering several keystrokes (col. 2, lines 25-29). It follows that the Mazur patent envisions a very limited memory system that provides inexpensive memory replacement within fractions of a second, and no input via keystrokes or other data entry by an operator.

The memory system of the Mazur patent is relatively inflexible with respect to the storage medium available for updating since it is very limited to the type of

permissible storage medium. In the alternative, the memory system recited in claim 1 of the pending application permits an operator to select from a plurality of memory systems and may include criteria for selecting memory by memory volume, size, robustness and price (specification, page 2, lines 20-22).

As is readily apparent, the Mazur patent has no need for a personal computer of the type described by the Huang et al. patent, and the interface employed by the Mazur patent renders a personal computer unnecessary. The rejection simply fails to make any reconciliation of the fact that the interface used by the Mazur patent is a PCMCIA compatible receptacle. Moreover, the proposed modification of the coin sorter of the Mazur patent would necessitate a connection to a personal computer of the type described by the Huang et al. patent that would require keystrokes to make software modifications, and overall greatly increases the expense and method of updating software.

Of course, as discussed above, the Mazur patent employs the flash memory so as to provide more quick and easy updates of system software and/or tailor the software without removing and replacing resident memory chips and without entering several keystrokes (col. 1, lines 23-29). Thus, the Mazur patent does not suggest the desirability to include the personal computer system of the Huang et al. patent, and instead describes alternative methods to install and erase software. It follows that there is no suggestion or motivation in the Mazur and Huang et al. patents themselves to make the proposed combination.

c. No reasonable expectation of success

Lastly, even if the Mazur and Huang et al. patents were combined, there is no reasonable expectation that a bank note processing machine according to claim 1 would successfully be obtained. This is due to the teachings of the Mazur patent of a coin sorting machine, and the Huang et al. patent that teaches a photocopier or computer system having image detection features to prevent the copy of certain valuable instruments. Neither of these patents describe processing the bank notes by singling and stacking the bank notes according to an evaluation.

It is submitted that one skilled in the art would not be motivated to make a bank note processing machine from a coin sorting machine. As indicated above, there are simply mechanical differences that do not enable a modification of a coin sorting machine to arrive at a bank note processing machine. The Huang et al. patent does not assist this modification since it is only concerned with the detection of certain marks on valuable instruments, and either provides a signal or stops the machine upon detection of such marks. As a result, it is clear that the Huang et al. patent does not provide any teaching that would transition the modification of the coin sorting machine to a bank note processing machine.

There are simply too many gaps among the Mazur patents and Huang et al. patent that preclude one of ordinary skill at making a bank note processing machine having all of the features of claim 1 based on these patents.

To base a rejection on a combination which has no basis in the references themselves, and which is essentially inoperative when the intended purposes and functions of the structures to be combined are considered, is clearly an improper hindsight rejection. It is submitted that the proposed combination of the Mazur patent to include the image detection system and personal computer system of the Huang et al. patent would change the principle of operation of the Mazur patent and, most importantly, run contrary to explicit teachings in the Mazur patent.

Moreover, the personal computer system of the Huang et al. runs contrary to both the memory system of the Mazur patent, and as such, substantial reconstruction and redesign of the coin sorting machine of the Mazur patent would be required to include the personal computer system of Huang et al. patent. The proposed combination would likely remove or render useless essential features of the Mazur patent such as the PCMCIA compatible receptacle and the use of flash memory.

VIII. Conclusion

For the reasons set forth above, independent claim 1 of the pending application defines subject matter that is not *prima facie* obvious within the meaning of 35 U.S.C. § 103(a) by the Mazur and Huang et al. patents.

Reversal of the rejection of claim 1 is respectfully requested. Since the remaining claims 2 and 4-7 depend from claim 1, the reversal of the rejection of these claims is likewise rejected.

The Office is authorized to charge any additional fees associated with this communication Deposit Account No. 02-0200.

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IX. CLAIMS APPENDIX

1. A bank note processing machine comprising:
 - sensors, a transport system including a singling unit and at least one stacking unit, an input/output device, and
 - a control device with an associated memory which controls the elements of the bank note processing machine by means of software and/or data stored in the memory and
 - an interface which makes it possible to couple memory systems of different kinds to the bank note processing machine in order to alter, supplement or replace the software and/or data stored in the memory;
 - wherein the memory system has a drive and a storage medium which are suitable for optical and/or magnetic recording
 - wherein the transport system transports single bank notes singled by the singling unit along the sensors to the at least one stacking unit according to an evaluation of data obtained by the sensors by the control device.

2. The bank note processing machine according to claim 1, wherein that the interface is a standardized interface, in particular according to PCMCIA.

Claim 3 (Cancelled)

4. The bank note processing machine according to claim 1, wherein the memory has a nonvolatile area, and after coupling of the memory system to the

interface the software and/or data stored in the memory system are stored in the nonvolatile area.

5. The bank note processing machine according claim 1, wherein that the memory has a volatile area, and after coupling of the memory system to the interface the software and/or data stored in the memory system are stored in the volatile area.

6. The bank note processing machine according to claim 1, wherein data obtained in the bank note processing machine during operation are stored in the memory system.

7. The bank note processing machine according to claim 1, wherein the software and/or data stored in the memory system are stored in encoded form, and the controller is set up to decode the encoded software and/or data.

Claims 8 - 14 (Cancelled)

X. EVIDENCE APPENDIX

There are no copies of evidence entered and relied upon in this appeal
of the pending application.

XI. RELATED PROCEEDINGS APPENDIX

There are no related proceedings or decisions rendered by a court or the Board of Appeals in any proceeding identified in the related appeals and interferences section in the pending application.